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What is Claimed is:

1. A cDNA encoding a deoxyribonuclease II $\beta$  enzyme.
2. The cDNA encoding the deoxyribonuclease II $\beta$  enzyme of claim 1 comprising SEQ ID NO: 1 or 3.
- 5 3. A vector comprising a cDNA of claim 1.
4. An isolated and purified deoxyribonuclease II $\beta$  enzyme.
5. The isolated and purified deoxyribonuclease II $\beta$  enzyme of claim 4 comprising SEQ ID NO: 2 or 4.
- 10 6. An antibody against the deoxyribonuclease II $\beta$  enzyme of claim 4.
7. A method of determining DNase II $\beta$  levels in selected cells comprising contacting selected cells with the antibody of claim 6 and detecting binding of said antibody to  
15 deoxyribonuclease II $\beta$  enzyme in said selected cells.
8. An antisense oligonucleotide targeted to a DNA or mRNA encoding the deoxyribonuclease II $\beta$  enzyme of claim 4.
9. A method of inhibiting expression of a deoxyribonuclease II $\beta$  enzyme in cells comprising administering  
20 to cells an effective amount of the antisense oligonucleotide of claim 8 so that levels of deoxyribonuclease II $\beta$  enzyme in cells are reduced.
10. A method of digesting DNA comprising contacting DNA with an enzyme of claim 4.